

## **DETAILED ACTION**

### ***Election of Species***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-7, drawn to an illumination system comprising a fluorescent phosphor material.

Group II, claim(s) 8-12, drawn to a fluorescent phosphor material.

2. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The four species are as follows:

A UV- or blue-emitting LED is the species of the generic radiation source of claim 1.

A nitride compound semiconductor is the species of the generic radiation source of claim 1.

A lamp is the species of the generic illumination system of claim 1.

A traffic sign is the species of the generic illumination system of claim 1.

Applicant is required, in reply to this action, to elect a single species from claims 4 and 5, and another from claims 6 and 7, to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

3. The claims are deemed to correspond to the species listed above in the following manner:

Claim 4 – species UV- or blue-emitting LED to generic radiation source.

Claim 5 – species nitride compound to generic radiation source

Claim 6 – species lamp to generic illumination system

Claim 7 – species traffic sign to generic illumination system.

The following claim(s) are generic: claim 1.

4. The inventions listed as Groups I and II and the species represented by claims 4-7 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The technical feature that the groups share, the phosphor composition  $EA_{2-z}Si_{5-a}B_aN_{8-a}O_a:Ln_z$ , does not in and of itself constitute a contribution over the prior art. The phosphor composition claimed is a sialon oxynitride doped

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fluorescent material. This type of fluorescent material has been taught in the prior art, for instance by Ellens et al (US 2003/0052595), who teach a Ce-activated sialon phosphor with the composition  $M_{p/2}Si_{12-p-q}Al_{p+q}O_qN_{16-q}:Ce^{3+}$ , where M is Ce or a combination of Ce and Sr. This type of material is also taught by Hintzen et al (US2006/0033081), who teach a Eu-doped oxynitride material with the composition  $MA_{2-x}Si_xO_{4-x}N_x:Eu$ , where M is Ca, Sr, or Ba. Further, this type of material is taught by de Graaf et al (Long wavelength  $Eu^{2+}$  emission in Eu-doped Y–Si–Al–O–N glasses), in which various materials with the same sialon-type composition as the instant application are discussed.

5. Although the cited prior art in this field of compositions does not teach the specific composition disclosed in the instant application, the compositions that are disclosed are very similar to the instant application and are comprised of the same components. The prior art phosphor compositions serve the same function as that of the instant application in converting incoming radiation energy into energy of a different, longer wavelengths, and thus creating illumination. This indicates that the phosphor composition taught by the instant application is does not in and of itself constitute a contribution over the prior art, and thus the inventions do not share a set of special technical features.

6. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

7. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Noah S. Wiese whose telephone number is 571-270-3596. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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